REMARKS

In response to the above-identified Office Action, Applicants amend the application and seek reconsideration thereof. No claims are added; No claims are cancelled; and Claims 4-8, 16 and 26 are amended. Accordingly, Claims 1- 27 are pending.

Claims Rejection Under 35 U.S.C. §102

The Examiner rejected Claims 1-27 under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 6,018,786 (Krick). Applicants respectfully traverse this rejection.

To anticipate a claim, every element of the claim must be disclosed within a reference. Krick fails to disclose or suggest an apparatus including a trace cache array to store a first trace and a second trace and a trace-end predictor to store a first tail data from said first trace to predict an address for said second trace. Krick describes how traces in a trace cache may be constructed so that each element of a trace contains pointer data to find the next address within the trace, and how each tail of a trace may contain pointer data to find the address of the head of the next trace to be executed. (Abstract, Figs. 1 - 6). Krick teaches that when determining the address of the head of the next trace, the pointer data in the current tail **must be read from the trace cache array** (Col. 6, lines 53- 67). Applicants claim an apparatus that provides a more efficient way to obtain the address of the head of the next trace.

Claims 1 & 23

The Examiner incorrectly equates "a trace end predictor to store a first tail data from the first trace to predict an address for the second trace" (Applicant, Claim 1) as "trace segment terminating conditions including information for an indirect branch macro instruction (Krick,

Col. 6, lines 1-7). An indirect branch is a type of program control instruction present in some machine language instruction sets. However, rather than specifying the address of the next instruction to execute, as in a direct branch, the argument specifies where the address is located. Thus, an example 'jump indirect on the r1 register' would mean that the next instruction to be executed would be at the address whose value is in register r1. In this example, the target address is not known until the instruction is executed.

Claims 1 and 23 recite, ". . . a trace-end predictor to store a first tail data from said first trace to predict an address for said second trace. . ." In the written description the Applicant explains, "[On] a subsequent execution of that trace, when it is clear that the tail will be executed, the next head address may be retrieved **from the buffer** as predicted tail data 232 **rather than as part of the read data** 234. (Par. 23) This may permit accessing the head of the next trace one or more pipeline stages earlier because the predicted address is obtained from the trace end predictor instead of the trace cache array. (Par. 23) Therefore, Krick fails to disclose a trace end predictor to store a first tail data from a first trace to predict an address for a second trace and Applicants respectfully requests withdrawal of the anticipation rejection of Claims 1 and 23.

With further regard to Claim 23, Krick fails to teach or suggest the capability of being connected to audio input/output devices. The Examiner refers to col. 4, lines 1-21, but Applicant fails to find any support for the Examiner's contention and respectfully requests withdrawal of the rejection. If the Examiner wishes to maintain this rejection, Applicant respectfully requests a reference to what specifically anticipates an audio input/output device as described in Claim 23.

Claims 2 & 24

The Examiner refers to lines 37-53 of column 6 to reject Claim 2 and 24 as anticipating a first tail data including a set and a way for a head of the second trace. While this reference does discuss a set and a way, the set and way are of the successor and predecessor trace segment **members**. The set and way described refer to the location of other segments that are **within a single** trace. This reference fails to teach or suggest a set and a way for a head of a **second** trace. Therefore, Applicant respectfully requests withdrawal of the anticipation rejection of Claims 2 and 24.

Claims 3-9 and 25-27 depend from Claim 1 and 23, respectively. While Applicant traverses the rejections of each claim, further argument is unnecessary at least because Applicants believe that Claim 1 and 23 are patentably distinguishable as set forth above. Consequently, dependent Claims 3-9 are also in condition for allowance and Applicant respectfully requests withdrawal of the rejection.

Claims 10 & 18

The Examiner generically points to Figures 1-7 as anticipating Claims 10 and 18. However, the Examiner has not identified, and Applicant is unable to find: storing tail data of a first trace during a first execution of said first trace, retrieving said tail data during a second execution of said first trace; and fetching a head of a second trace from a trace cache using said tail data.

Krick teaches fetching the head of a second **trace segment member**. (Col. 4, line 35 – Col. 5, line 20). Nevertheless, the trace segment member of Krick is not the same as the trace of Applicant. The trace segment member is a portion of the same trace. Krick teaches fetching the

next segment within the **same** trace, while Applicant claims fetching the head of **another** trace. Because Krick fails to anticipate each and every element of Claims 10 and 18, Applicant respectfully requests withdrawal of the rejection.

Claims 11 & 19

The Examiner refers to lines 22-52 of column 6 and Figures 1-7 to reject Claims 11 and 19 as anticipating storing set and way information of said first trace. While this reference does discuss a set and a way, the set and way are of the successor and predecessor trace segment **members**. The set and way described refer to the location of segments that are **within a single trace**. This reference fails to teach or suggest a set and a way for a head **of a second trace**. Therefore, Applicant respectfully requests withdrawal of the anticipation rejection of Claims 11 and 19.

Claims 12-17 and 20-22 depend from Claim 10 and 18, respectively. While Applicant traverses the rejection of each claim, further argument is unnecessary at least because Applicants believe that Claims 10 and 18 are patentably distinguishable as set forth above. Consequently, Applicant believes that dependent Claims 12-17 and 20-22 are also in condition for allowance and respectfully requests withdrawal of the rejection.

CONCLUSION

In view of the foregoing, Applicant believes that all claims are now in condition for allowance and Applicant earnestly solicits such action solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If the Examiner believes that a telephone

conference would be useful in moving the application forward to allowance, Applicant encourages the Examiner to contact the undersigned at (310) 207 3800.

Respectfully submitted,

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Susan M. Barrette — March 9, 2006